

A1  
the other of the first or second positions, the actuator adding energy to the tissue penetrating member as the tissue penetrating member moves from the first position to the second position.

Sub C2  
A2  
67. (Amended) An intravascular therapeutic catheter as in claim 57 wherein the catheter body has a proximal portion and further comprising

a fluid delivery lumen located in the catheter body extending from [a] the proximal portion to a position proximate the tissue penetrating member for delivering a fluid to the location of the tissue penetrating member.

Sub C3  
A3  
70. (Amended) An intravascular therapeutic catheter as in claim 57 wherein:

the tissue penetrating member is adapted for [rotary] motion about a pivot point between the first non-penetrating position and the second tissue penetrating position; and

the second position is defined by maximum storage of energy in the tissue penetrating member thereby defining motion over a limited distance.

Sub C4  
A4  
74. (Amended) An intravascular therapeutic catheter comprising:  
an elongate catheter body having a distal portion;  
a tissue penetrating member disposed proximate the distal portion, operably coupled to the elongate catheter body, and having a first non-penetrating position and a second tissue penetrating position; and  
an actuator member disposed proximate the distal portion and operably coupled to the tissue penetrating member, for moving the tissue penetrating member from

one of the first or second positions to the other of the first or second positions, the tissue penetrating member releasing stored energy as the penetrating member moves from the first position to the second position.

Q4 75. (Amended) An intravascular therapeutic catheter as in claim 74, wherein the catheter body includes a constraining lumen and the first position of the penetrating member is a constrained position where the tissue penetrating member is located within [a] the constraining lumen, and wherein the second position is an unconstrained position where the tissue penetrating member is not constrained by the constraining lumen.

Sub C5  
Q5 78. (Amended) An intravascular therapeutic catheter of claim 74 wherein:

the tissue penetrating member is adapted for [rotary] motion about a pivot point between the first non-penetrating position and the second tissue penetrating position; and

the second position is defined by complete release of the stored energy thereby defining motion over a limited distance.

Sub C6  
Q6 82. (Amended) An intravascular therapeutic catheter comprising:  
an elongate catheter body having distal portion, and having an axis;  
a tissue penetrating member disposed proximate the distal portion operably coupled to the elongate catheter body and having a first non-penetrating position and a second tissue penetrating position and having a pivot point; and

A6  
an actuator member disposed proximate the distal portion  
and operably coupled to the tissue penetrating  
member, for moving the tissue penetrating member from  
one of the first or second positions to the other of  
the first or second positions about the pivot point.

83. (Amended) An intravascular therapeutic catheter as in claim  
82, wherein the catheter body includes a constraining lumen and the  
actuator member moves the tissue penetrating member from [a] the  
constraining lumen within the catheter.

53  
B27  
A7  
86. (Amended) An intravascular therapeutic catheter comprising:  
an elongate catheter body having a distal portion and an  
axis;  
a tissue penetrating member disposed proximate the distal  
portion and operably coupled to the elongate catheter  
body and having a first non-penetrating position and  
a second tissue penetrating position; and  
an actuator member disposed proximate the distal portion  
and operably coupled to the tissue penetrating  
member, for moving the tissue penetrating member from  
one of the first or second positions to the other of  
the first or second positions in a substantially  
[lateral] transverse path with respect to the axis.

A8  
53  
B37  
91. (Amended) An intravascular therapeutic catheter comprising:  
an elongate catheter body having a distal portion and an  
axis;  
a tissue penetrating member disposed proximate the distal  
portion and operably coupled to the elongate catheter  
body and having a first non-penetrating position and  
a second tissue penetrating position; and

A8  
an actuator member disposed proximate the distal portion  
and operably coupled to the tissue penetrating  
member, for moving the tissue penetrating member a  
limited distance from one of the first or second  
positions in a direction substantially non-parallel  
to the catheter body to the other of the first or  
second positions.

Sub C9  
Q9  
93. (Amended) An intravascular therapeutic catheter as in claim  
91, wherein the actuator member moves the tissue penetrating member  
along a lateral path with respect to the [a longitudinal] axis of  
the catheter body.

Q7  
Sub C10  
57  
97. (Amended) An intravascular therapeutic catheter as in claim  
91, wherein the tissue penetrating member is [cold] cooled.

Q11  
103. (Amended) A method for treating cardiac tissue comprising  
the steps of:

providing an intravascular therapeutic catheter having an  
elongate catheter body, an actuator and a tissue  
penetrating member operably coupled to the catheter  
body and disposed proximate a distal portion of the  
catheter body, the tissue penetrating member having  
a first non-penetrating position and a second tissue  
penetrating position;  
navigating the catheter through vasculature to a treatment  
site proximate the cardiac tissue; and  
adding energy to the tissue penetrating member to move the  
tissue penetrating member from the first position in  
a direction substantially non-parallel to the  
catheter body to the second position.

110. (Amended) A method for treating cardiac tissue comprising the steps of:

providing an intravascular therapeutic catheter having an elongate catheter body, an actuator and a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the tissue penetrating member having a first non-penetrating position and a second tissue penetrating position;

navigating the catheter through vasculature to a treatment site proximate the cardiac tissue; and

releasing energy from the tissue penetrating member to move the tissue penetrating member from the first position to the second position.

116. (Amended) A method for treating cardiac tissue comprising the steps of:

providing an intravascular therapeutic catheter having an elongate catheter body, an actuator and a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the tissue penetrating member having a pivot point, a first non-penetrating position and a second tissue penetrating position;

navigating the catheter through vasculature to a treatment site proximate the cardiac tissue; and

moving the tissue penetrating member from one of the first or second positions to the other of the first or second positions about the pivot point.

117. (Amended) A method for treating cardiac tissue as in claim 116 wherein the catheter body includes a restraint lumen and the tissue penetrating member is restrainable in [a] the restraint lumen;

A<sup>13</sup>  
and wherein the step of moving the tissue penetrating member further comprises moving the tissue penetrating member from the restraint lumen whereby the tissue penetrating member moves from one of the first or second positions to the other of the first or second positions about the pivot point.

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120. (Amended) A method for treating cardiac tissue comprising the steps of:

357  
A<sup>14</sup>  
providing an intravascular therapeutic catheter having an elongate catheter body, an actuator and a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the tissue penetrating member having a first non-penetrating position and a second tissue penetrating position;  
navigating the catheter through vasculature to a treatment site proximate the cardiac tissue; and  
moving the tissue penetrating member from one of the first or second positions to the other of the first or second positions in a substantially [lateral] transverse path with respect to a longitudinal axis of the catheter body.

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125. (Amended) A method for treating cardiac tissue comprising the steps of:

357  
A<sup>15</sup>  
providing an intravascular therapeutic catheter having an elongate catheter body, an actuator and a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the tissue penetrating member having a first non-penetrating position and a second tissue penetrating position;

Q15-  
navigating the catheter through vasculature to a treatment site proximate the cardiac tissue; and moving the tissue penetrating member a limited distance from one of the first or second positions in a direction substantially non-parallel to the catheter body to the other of the first or second positions.

130. (Amended) A method for treating cardiac tissue comprising the steps of:

Q16  
providing an intravascular catheter of the type having an elongate catheter body and a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the penetrating member having a first non-penetrating position and a second tissue penetrating position;

navigating the catheter through vasculature to a treatment site proximate the cardiac tissue;  
moving the tissue penetrating member from one of the first or second positions in a direction substantially non-parallel to the catheter body to the other of the first or second positions; and

delivering a drug to the treatment site wherein the drug is selected from the group consisting of: a peptide, a protein and a fragment thereof.

87  
B77  
Q17  
132. (Amended) A method for treating cardiac tissue comprising the steps of:

providing an intravascular catheter of the type having an elongate catheter body and a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the penetrating member having a first non-

Q17  
penetrating position and a second tissue penetrating position;  
navigating the catheter through vasculature to a treatment site;  
moving the tissue penetrating member from one of the first or second positions in a direction substantially non-parallel to the catheter body to the other of the first or second positions; and  
delivering a drug comprising a genetic material to the treatment site.

133. (Amended) A method for treating cardiac tissue as in claim [131] 132 wherein the genetic material, when incorporated into the tissue penetrating member, results in the expression of therapeutic materials.

Q18  
139. (Amended) A method of treating cardiac tissue as in claim 132 wherein the cardiac tissue is proximate a coronary vessel having a wall and wherein the drug is delivered outside the wall of [a] the coronary vessel.

140. (Amended) A method for treating cardiac tissue comprising the steps of:

Q18  
providing an intravascular catheter of the type having an elongate catheter body and a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the penetrating member having a first non-penetrating position and a second tissue penetrating position;  
navigating the catheter through vasculature to a treatment site proximate the cardiac tissue;



Q18  
moving the tissue penetrating member from one of the first or second positions in a direction substantially non-parallel to the catheter body to the other of the first or second positions; and  
delivering a drug to the treatment site wherein the drug is selected from the group consisting of: heat shock protein, a hormone, ATP, an ATP precursor, glucose, and a metabolic intermediate.

SD  
B/D  
142. (Amended) A method for treating cardiac tissue comprising the steps of:

providing an intravascular catheter of the type having an elongate catheter body and a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the penetrating member having a first non-penetrating position and a second tissue penetrating position;

navigating the catheter through vasculature to a treatment site proximate the cardiac tissue;

Q19  
moving the tissue penetrating member from one of the first or second positions in a direction substantially non-parallel to the catheter body to the other of the first or second positions; and

delivering a drug comprising glycoprotein or a fragment thereof to the treatment site.

143. (Amended) A method for treating cardiac tissue comprising the steps of:

providing an intravascular catheter of the type having an elongate catheter body, a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the

Q19  
penetrating member having a first non-penetrating position and a second tissue penetrating position, and further having an actuator member operably coupled to the tissue penetrating member and disposed proximate a distal portion of the catheter body for moving the tissue penetrating member from one of the first or second positions to the other of the first or second positions;  
navigating the catheter through vasculature to a treatment site proximate the cardiac tissue;  
actuating the tissue penetrating member whereby the tissue penetrating member moves from one of the first or second positions in a direction substantially non-parallel to the catheter body to the other of the first or second positions; and  
delivering a drug to the treatment site wherein the drug is selected from the group consisting of: a peptide, a protein and a fragment thereof.

147. (Amended) A method for treating cardiac tissue comprising the steps of:

Q20  
providing an intravascular catheter of the type having an elongate catheter body, a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the penetrating member having a first non-penetrating position and a second tissue penetrating position, and further having an actuator member operably coupled to the penetrating member and disposed proximate a distal portion of the catheter body for moving the tissue penetrating member from one of the first or second positions to the other of the first or second positions;

A20 navigating the catheter through vasculature to a treatment site proximate the cardiac tissue;  
actuating the tissue penetrating member whereby the tissue penetrating member moves from one of the first or second positions in a direction substantially non-parallel to the catheter body to the other of the first or second positions; and  
delivering a drug comprising a genetic material to the treatment site.

151. (Amended) A method for treating cardiac tissue comprising the steps of:

A21 providing an intravascular catheter of the type having an elongate catheter body, a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the penetrating member having a first non-penetrating position and a second tissue penetrating position, and further having an actuator member operably coupled to the penetrating member and disposed proximate a distal portion of the catheter body for moving the tissue penetrating member from one of the first or second positions to the other of the first or second positions;  
navigating the catheter through vasculature to a treatment site proximate the cardiac tissue;  
actuating the tissue penetrating member whereby the tissue penetrating member moves from one of the first or second positions in a direction substantially non-parallel to the catheter body to the other of the first or second positions; and  
delivering a drug to the treatment site wherein the drug is selected from the group consisting of: heat shock

Q21  
protein, a hormone, ATP, an ATP precursor, glucose, and a metabolic intermediate.

155. (Amended) A method for treating cardiac tissue comprising the steps of:

Q22  
providing an intravascular catheter of the type having an elongate catheter body, a tissue penetrating member operably coupled to the catheter body and disposed proximate a distal portion of the catheter body, the penetrating member having a first non-penetrating position and a second tissue penetrating position, and further having an actuator member operably coupled to the tissue penetrating member and disposed proximate a distal portion of the catheter body for moving the tissue penetrating member from one of the first or second positions to the other of the first or second positions;

navigating the catheter through vasculature to a treatment site proximate the cardiac tissue;

actuating the tissue penetrating member whereby the tissue penetrating member moves from one of the first or second positions in a direction substantially non-parallel to the catheter body to the other of the first or second positions; and

delivering a drug comprising a glycoprotein or a fragment thereof to the treatment site.

Please add claims 163-166 as follows:

Q23  
--163. The method of claim 130 wherein delivering comprises:  
delivering the drug to myocardium.